

Mr. Aff's

7th Annual Paper Car Design Project

Objective: To design and construct a **Paper Car** that will travel 3 meters.

This is a group project
2 members only
per group
Members must
be in SAME class

Allowable Materials:

- Paper - up to the thickness of a file folder
- Plastic Straws or Pen Tubes
- Rubber Bands (Hint: Propulsion)
- Tape
- Glue
- Paper clips

Materials NOT allowed:

- Cardboard
- Clothes hangers
- Any wood products
(tooth picks, chopsticks, skewers, pencils, etc.)
- Anything NOT on the Allowable Materials List

Car Size & Weight:

- No requirements (Hint: Bigger/heavier cars require more propulsion power)

Milestone Dates:

October 22, 2014 - Preliminary Design / Concept [50 points]

Include:

- Car sketch with dimensions [up to 25 points]
- Propulsion concept [up to 25 points]

Notes:

- Engineering pointers will be given by Mr. Aff regarding design.
- This design does NOT need to be your final design.

December 3, 2014 - Prototype Car [50 points]

Include:

- A prototype of your car with wheels and structure [up to 30 points]
- Project Journal [up to 20 points]

Notes:

- The prototype **DOES** have to roll on its own. It **DOES NOT** have to propel itself.
- Engineering pointers will be given by Mr. Aff regarding design.
- This design does NOT need to be your final design.

January 7, 2015 - Displacement Contest [50 points]

Be ready to **R U M B L E !**

Take the best of three (3) runs for Travel Displacement grade per rubric below:

Travel Displacement*:

8.0 meters or more = 50 points

7.5 meters = 49.5 points

7.0 meters = 49.0 points

6.5 meters = 48.5 points

6.0 meters = 48.0 points

5.5 meters = 47.5 points

5.0 meters = 47.0 points

4.5 meters = 46.5 points

4.0 meters = 46.0 points

3.5 meters = 45.5 points

3 meters = 45 points

2.5 meters = 44 points

2.0 meters = 43 points

1.5 meters = 42 points

1.0 meter = 41 points

0.5 meters = 40 points

Moves at all = 35 points

Does Not Move = 30 points

No car = 0 points

* The Travel Displacement will be measured using a tape measure from the car's front at the start to the same point when it stops. Actual travel distance will NOT be measured. All travel displacements will be rounded DOWN to the nearest centimeter.

Late cars will be penalized 20% per day
Cars that use materials that are not allowed will be penalized 50%

An alternate project is available. See Mr. Aff for details.